

Office Action Summary

Application No.

09/470,343

Applicant(s)

MARTINEZ-TOVAR ET AL

Examiner

Troy Chambers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 12-14 is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☒ The proposed drawing correction filed on 16 January 2001 is: a) ☒ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 20) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4976200 issued to Benson et al. ("Benson") in view of U.S. Patent No. 5080016 issued to Osher. Benson discloses a tungsten bridge device for the low energy ignition of explosive and energetic materials, comprising: a substrate 12; an oxide insulation layer 18; an electrical bridge consisting of: a 1st bridge-shaped layer of an insulating material 20, and a 2nd layer 20 of tungsten; a pair of conductive lands 14; and, a pair of electrical conductors 22 connected to each of said lands (Benson, Claim 1). However, Benson does not disclose expressly a bridge having a second layer of titanium.

Osher discloses a bridge-foil for enhanced electric gun/slapper detonator operation, comprising two wing-shaped electrodes 30; and, a bridge foil 32 made of hydrogen loaded titanium.

Benson and Osher are combinable because they are from the same field of endeavor, namely, explosive semiconductor bridges (SCBs).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the titanium bridge of Osher into the semiconductor bridge

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device of Benson. The suggestion/motivation for doing so would have been to obtain an increased explosive velocity (Osher, column 1, lines 57-59; column 3, lines 10-17).

3. With respect to claim 1, the combination to Benson and Osher anticipates Applicant's invention as described above.

4. With respect to claim 2, Benson discloses a pair of electrical conductors 22, one connected to a respective one of the electrically conductive lands 14 (Benson, Claim 1 and Figure 1).

5. With respect to claims 3 and 4, Osher discloses a source of electrical energy 20 comprising a capacitor (Osher, Figure 1).

6. With respect to claim 5, Benson discloses a substrate 12 located below a silicon dioxide layer 18 located below the electrical bridge structure (Benson, Figure 2).

7. With respect to claim 6, Benson discloses a substrate 12 comprised of sapphire (Benson, Claim 16).

8. With respect to claims 7-10, Benson discloses a layer 20 of silicone (Benson, Claim 3) which can be either doped (Benson, column 4, line 2) or undoped (Benson, column 3, line 67).

9. With respect to claim 11, Benson discloses a tungsten bridge device that may be used in several explosive devices including igniters (Benson, column 5, lines 30-37).

10. With respect to claims 15 and 16, Benson discloses a pair of electrically conductive lands 14 comprised of aluminum (Benson, Claim 4).

Allowable Subject Matter


11. Claims 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Baginski, Osher, Dahn, Proffit, Patz and Willis are cited as of interest to show similar electro-explosive devices.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Troy Chambers whose telephone number is (703) 308-5870. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone, can be reached at (703) 306-4198.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-4177. The fax phone number for the organization where this application or proceeding is assigned is (703) 306-4195.


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